- 2. While the need for certain advisory signing is noted hereon, it is not intended that this be indicative of all signing that may be required to advise or warn motorists, and all requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) must be fulfilled.
- 3. In urban or otherwise heavily developed areas where pedestrians and/or bicyclists may be present in sig-nificant numbers, additional signing and protective measures other than those shown hereon may be required.
- 4. The drop-off treatment selected for use at any given location shall be as appropriate for the prevailing conditions at the site.
- 5. Where concrete barrier is specified, it shall be in accordance with Standard Construction Drawing RM-4.2 and Item 622.
- 6. When drums are specified for a drop-off condition, a minimum number of four drums shall be used. Spacing shall be as indicated in the plans or as specified in the OMUTCD.
- 7. When W8-9 (Low Shoulder) signs or W8-9a (Shoulder Drop -Off) signs or W8-11 (Uneven Lanes) signs are required, they shall be placed 750 feet [230 m] in advance of the condition, on all intersecting entrance ramps within the limits of the condition and immediately beyond all inter secting roadways within the limits of the condition. When the drop-off condition extends more than 0.5 mile [800 m], additional signs should be erected at intervals of 1.0 mile [1600 m] or less.
- 8. For locations, such as at ramps, lane shifts, lane closures, etc., where traffic is required to negotiate a difference in elevation between pavements, a 3:1 slope treatment similar to the Optional Wedge Treatment shall be provided.
- Portable concrete barrier shall be placed on the same level as the traffic surface and shall no't encroach on lane width(s) designated as the minimum required for traffic use. Where drums are used, and their presence would reduce traveled lane widths to less than 10 feet [3.0 m], drums may be placed on the opposite level from that of traffic provided the dropoff depth does not exceed 5 inches [125] and approval is granted by the Project Engineer.
- 10. Pavement Repairs (or similar work):
 - a. Lengths greater than 60 feet [18 m] utilize appropriate treatment from Condition I.
 - b. Lengths of 60 feet [18 m] or less repairs shall be effected in accordance with CMS 255.08. Drums may be used as a separtor adjacent to the traveled lane.

OPTIONAL WEDGE TREATMENT (MILLING OR RESURFACING)

- 1. This treatment may be used when permitted for Condition I only.
- 2. W8-11 sign required.

Traveled lane Traveled lane

Firm and unyielding material (to be removed prior to placing the abutting pavement course, unless otherwise \square > permitted to remain by the plans or specifications).

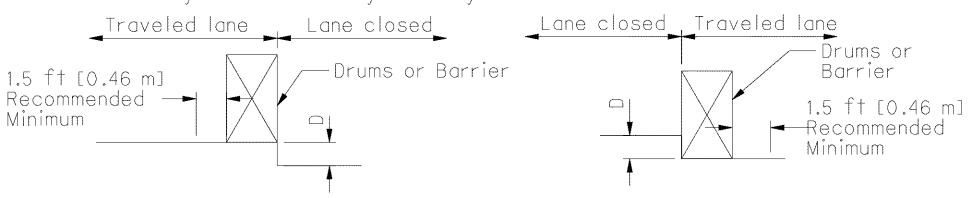
CONDITION I

DROP-OFFS BETWEEN TRAVELED LANES

1. These treatments are to be used for resurfacing, pavement planing, excavation, etc. between or within traveled lanes.

| D - inches (mm) | Treatment | | |
|----------------------|---|--|--|
| <1-1/2 [≤40] | Erect W8-11 sign. | | |
| 1-1/2 - 3 [40-75] | 1) Lane closure utilizing drums* as shown below OR 2) Optional Wedge Treatment | | |
| > 3 - 5 [>75-125] | Lane closure utilizing drums as shown below. | | |
| > 5 [>125] | Lane closure utilizing portable concrete barrier as shown below. | | |

* Cones may be used for daytime only conditions.



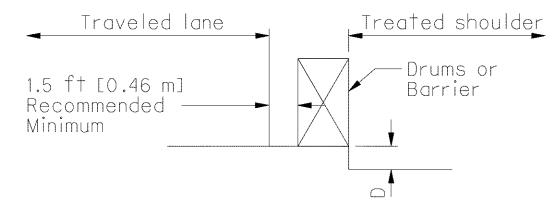
CONDITION II

DROP-OFFS WITHIN GRADED SHOULDER AREA

The treatments indicated below are for use in conjunction with resurfacing, planing, or excavations within the graded shoulder area.
 The graded shoulder area is that flat or gradually sloping area between the edge of a normally traveled lane and the more steeply sloping ditch foreslope or embankment slope. Its surface may be soil or turf, and/or it may be inclusive of a "treated" area (improved with aggregates, asphaltic materials or concrete). For the purpose herein, its maximum width shall be considered to be 12 feet [3.6 m].

| D - inches (mm) | Treatment | | |
|---------------------------------------|--|--|--|
| < 1-1/2 [<40] | 1) Erect W8-9a signs. | | |
| > 1-1/2 - 5 [>40-125] | 1) If minimum lane width* requirements can be met, maintain lanes utilizing drums as shown below OR 2) If minimum. lane width* requirements cannot be met, close adjacent lane utilizing drums OR 3) Optional Shoulder Treatment. | | |
| > 5 -12 [125-305] Daylight only | If minimum lane width* requirements can be met, maintain lanes utilizing drums as shown below. | | |
| > 5 - 24 [>125-610] | If minimum lane width* requirements can be met, maintain lanes utilizing portable concrete barrier as shown below. OR If minimum lane width* requirements cannot be met, close adjacent lane utilizing drums. | | |
| > 24 [> 610] | Lane closure utilizing portable concrete barrier as shown below. | | |

* Minimum lane widths shall be 10 ft [3.0 m] unless otherwise specified in the plans.



OPTIONAL SHOULDER TREATMENT

- 1. This treatment may not be used within a bitumunos shoulder where a hot longitudnal joint per CMS 401.15 is required.
- 2. W8-9 signs required.



CONDITION III

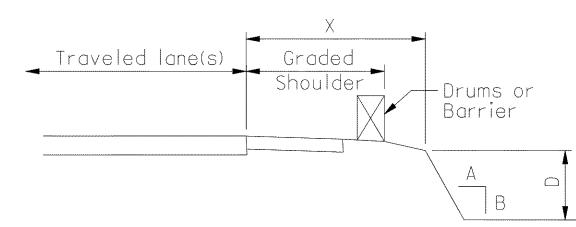
DROP-OFFS BEYOND GRADED SHOULDER OR BACK OF CURB

1. See Note 2 under Condition II. 2. Use Chart A or B below, as applicable.

CHART A

USE FOR: 1. Uncurbed Facilities

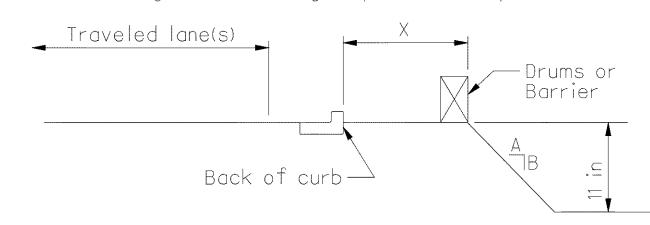
2. Curbed Facilities, where: a. Curbs are less than 6 inch [150] in height b. Curbs are 6 inch [150] or greater in height and the legal speed is greater than 40 mph [70 km/hr].



| X | D | A/B | Treatment | Required | | |
|---|------------------------------|------------------|-----------|----------|--|--|
| feet (m) | inch (mm) | A / D | Day | Night | | |
| 0 - 4 [0 - 1.2] | Any | Any | (a) | (a) | | |
| 4 - 30 [1.2 - 9.1] | Any | 3:1 or Flatter | None | None | | |
| 4 - 12 [1.2 - 3.6] | ≤ 3 [≤ 75] | Steeper than 3:1 | None | None | | |
| 4 - 12 [1.2 - 3.6] | > 3 - < 12 [> 75 - < 305] | Steeper than 3:1 | Drums | Drums | | |
| 4 - 12 [1.2 - 3.6] | > 12 [> 305] | Steeper than 3:1 | Drums | Barrier | | |
| > 12 - 20 [> 3.6 - 6.1] | < 12 [< 305] | Steeper than 3:1 | None | None | | |
| > 12 - 20 [> 3.6 - 6.1] | > 12 - 24 [> 305 - < 610] | Steeper than 3:1 | Drums | Drums | | |
| > 12 - 20 [> 3.6 - 6.1] | > 24 [> 610] | Steeper than 3:1 | Drums | Barrier | | |
| > 20 - 30 [> 6.1 - 9.1] | < 24 [< 610] | Steeper than 3:1 | None | None | | |
| > 20 - 30 [> 6.1 - 9.1] | > 24 [> 610] | Steeper than 3:1 | Drums | Barrier | | |
| > 30 [> 9.1 m] | Any | Any | None | None | | |
| (a) Use treatment specified under Condition II. | | | | | | |

CHART B

USE FOR: Curbed facilities, where the curb is 6 inches [150 mm] or greater in height and the legal speed is 40 mph [70 km/h] or less.



| X | D | A/B | Treatmen ⁻ | t Required |
|---------------------|-----------------|-------|-----------------------|------------|
| feet (m) | linch (mm) | A/D F | Day | Night |
| 0 - 10 [0-3.0 m] | < 12 [< 305] | Any | None | Drums |
| 0 - 10 [0-3.0 m] | > 12 [> 305] | Any | Drums | Drums |
| > 10 [> 3.0 m] | Any | Any | None | None |

OFFICE OF TRAFFIC ENGINEERING

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